

CLAIMS

1-12 (canceled)

13 (new) A recorder for an optical record carrier with an information layer having a track having reference elements and periodic variations of a physical property, the recorder comprising:

- a recording system that records data encoded as optically readable marks in the track; and

- means for controlling the recording system depending on the phase of the periodic variations at the reference elements.

14 (new) A player for an optical record carrier with an information layer having a track having: data encoded as optically readable marks, reference elements, and periodic variations of a physical property, the player comprising:

- a reading system that reads the encoded data from the track; and

- means for controlling the reading system depending on the phase of the periodic variations at the reference elements.

15. (new) An optical record carrier, comprising:

- a substrate;

- an information layer over the substrate;

- a track in the information layer, the track containing reference elements and having periodic variations of a physical property, the phase of the periodic variations at the reference elements providing information about another property of the record carrier.

16. (new) The carrier of claim 15 wherein the periodic variations are selected from one or more of: a wobble in the edge of the track, the width of the track, and the height of the track.

17. (new) The carrier of claim 15 wherein the referenced elements are selected from one or more of: header information, a synchronization mark, and a mirror mark.

18 (new) The carrier of claim 15 wherein the other property is selected from one or more of: the radial position of the track at the reference element, whether the track is a raised land or a depressed groove in the information layer, and the current information layer of multiple information layers.

19. (new) The carrier of claim 15 wherein the carrier further comprises data encoded as optically readable marks in the track.

20. (new) A method of producing record carriers comprising:
 providing a substrate with a track;
 providing reference elements in the track;
 providing a periodic variation of a physical property of the track, the phase of the periodic variation at the reference elements providing information about another property of the record carrier.